

WHAT IS CLAIMED:

1                   1.     A method for managing product development, the method  
2     comprising:  
3                   storing technical requirements data for a product including product data,  
4     material data, and packaging data in a structured relational database;  
5                   linking unstructured documents to the technical requirements data  
6     within the structured relational database;  
7                   grouping technical requirements data into technical requirements  
8     summaries to define a finished product;  
9                   linking the technical requirements summaries for the finished product  
10    to facilitate user navigation and searchability among related technical requirements  
11    summaries;  
12                  recording changes made to the technical requirements data and  
13    associated user identification information;  
14                  storing approval information for the technical requirements data in the  
15    relational database; and  
16                  electronically communicating approved technical requirements data for  
17    use in manufacturing and distributing the finished product.

1                   2.     The method of claim 1 wherein the step of storing approval  
2     information comprises storing an electronic signature which uniquely identifies a user.

1                   3.     The method of claim 1 wherein the step of linking unstructured  
2     documents comprises associating structured attributes with the unstructured documents  
3     and storing the associated structured attributes in the relational database.

1                   4.     The method of claim 1 further comprising:  
2                   validating the technical requirements data during entry relative to  
3     previously entered technical requirements data based on predetermined rules.

1                   5.     The method of claim 1 wherein the technical requirements  
2     summaries include at least two levels of summaries, the method further comprising:

3 storing separate approval information for each level of technical  
4 requirements summaries.

1 6. The method of claim 5 wherein the levels of summaries include  
2 at least a master level approved by a first user and an individual level approved by the  
3 same user or by a different user.

1 7. The method of claim 5 wherein the levels of summaries include  
2 at least a master level and a plurality of individual level summaries associated with at  
3 least one master level summary.

1 8. The method of claim 1 wherein the technical requirements  
2 summaries include a formula card, a raw material specification, a packing standard,  
3 a packaging material specification, a supplier approval, and an approved country  
4 matrix.

1 9. The method of claim 1 further comprising:  
2 limiting access to subsets of technical requirements data based on a user  
3 identification and password.

1 10. The method of claim 1 wherein the step of grouping technical  
2 requirements data comprises grouping data to form different technical requirements  
3 summaries based on requirements or practices of a particular geographic region.

1 11. The method of claim 1 wherein the step of grouping technical  
2 requirements data comprises combining different technical requirements data to form  
3 technical requirements summaries based on requirements or practices of business units  
4 within an organization.

1 12. The method of claim 1 wherein the step of storing technical  
2 requirements data comprises storing draft versions of the technical requirements data.

1                   13.     The method of claim 1 wherein the step of storing technical  
2 requirements data comprises storing approved technical requirements data.

1                   14.     The method of claim 1 wherein the step of storing technical  
2 requirements data comprises storing archived technical requirements data.

1                   15.     The method of claim 1 wherein the step of storing technical  
2 requirements data comprises:  
3                   storing draft, approved, and archived versions of the technical  
4 requirements data; and  
5                   linking the draft, approved, and archived versions of the technical  
6 requirements within the relational database.

1                   16.     The method of claim 1 wherein the step of grouping technical  
2 requirements data into technical requirements summaries comprises grouping product  
3 components, product amounts, in-process product measures, and finished product  
4 measures into a formula card.

1                   17.     The method of claim 1 wherein the step of grouping technical  
2 requirements data into technical requirements summaries comprises grouping package  
3 components, package amounts, in-process package measures, and finished package  
4 measures into a packing standard.

1                   18.     The method of claim 17 wherein the packing standard comprises  
2 consumer level data, customer level data, and transport level data.

1                   19.     The method of claim 18 wherein the consumer level data  
2 comprises primary package data and a product formula.

1                   20.     The method of claim 18 wherein a single business group  
2 develops the consumer level data, the customer level data, and the transport level data.

1                   21.    The method of claim 18 further comprising creating and  
2    approving each level of data within a different business group.

1                   22.    The method of claim 1 wherein the step of grouping technical  
2    requirements data into technical requirements summaries comprises grouping product  
3    constituents and associated levels for a given raw and packaging material into a raw  
4    and packaging material specification.

1                   23.    The method of claim 22 further comprising:  
2                   separating the raw and packaging material specification into a master  
3    level and an individual level, the master level including technical information and the  
4    individual level containing logistical and shipping information.

1                   24.    The method of claim 1 wherein the step of grouping technical  
2    requirements data into technical requirements summaries comprises grouping  
3    packaging constituents and associated levels for a given packaging material into a  
4    packaging material specification.

1                   25.    The method of claim 24 further comprising:  
2                   separating the packaging material specification into a master level  
3    containing technical information and an individual level containing logistical and  
4    shipping information.

1                   26.    The method of claim 1 wherein the step of grouping technical  
2    requirements data into technical requirements summaries comprises grouping raw  
3    material data by approved supplier.

1                   27.    The method of claim 1 wherein the step of grouping technical  
2    requirements data into technical requirements summaries comprises grouping finished  
3    products by approved country of sale.

1                   28.    The method of claim 1 wherein the step of linking unstructured  
2    documents comprises linking text documents to the technical requirements data.

1                   29.    The method of claim 28 wherein the text documents specify test  
2 methods, process standards, general standards, standard operating procedures, or  
3 recommended procedures.

1                   30.    The method of claim 1 wherein the step of linking unstructured  
2 documents comprises linking artwork for product packaging to the technical  
3 requirements data.

1                   31.    A system for managing product development, the system  
2 comprising:

3                   a technical requirements data module for a product including product  
4 data, material data, and packaging data in a structured relational database;

5                   a module for linking unstructured documents to the technical  
6 requirements data within the relational database;

7                   a module for grouping technical requirements data into technical  
8 requirements summaries to define a finished product;

9                   a module for linking the technical requirements summaries for the  
10 finished product to facilitate user navigation among related technical requirements  
11 summaries;

12                  a module for recording changes made to the technical requirements data  
13 and associated user identification information;

14                  a module for storing approval information for the technical  
15 requirements data in the relational database; and

16                  a module for electronically communicating approved technical  
17 requirements data for use in manufacturing and distributing the finished product.

1                   32.    The system of claim 31 wherein the module for storing approval  
2 information stores an electronic signature which uniquely identifies a user.

1                   33.    The system of claim 31 wherein the module for linking  
2 unstructured documents associates structured attributes with the unstructured  
3 documents and stores the associated structured attributes in the relational database.

1                   34.    The system of claim 31 wherein the technical requirements  
2 summaries include at least two levels of summaries, the system further comprising:  
3                   means for storing separate approval information for each level of  
4 technical requirements summaries.

5                   35.    The system of claim 34 wherein the levels of summaries include  
6 at least a master level approved by a first user and an individual level approved by a  
7 second user.

1                   36.    The system of claim 34 wherein the levels of summaries include  
2 at least a master level and a plurality of individual level summaries associated with at  
3 least one master level summary.

1                   37.    The system of claim 31 wherein the technical requirements  
2 summaries include a formula card, a raw material specification, a packing standard,  
3 a packaging material specification, and a supplier approval and approved country  
4 matrix.

1                   38.    The system of claim 31 further comprising:  
2                   a module for limiting access to subsets of technical requirements data  
3 based on a user identification and password.

1                   39.    The system of claim 31 wherein the module for grouping  
2 technical requirements data groups data to form different technical requirements  
3 summaries based on requirements or practices of a particular geographic region.

1                   40.    The system of claim 31 wherein the technical requirements data  
2 module includes draft versions of the technical requirements data.

1                   41.    The system of claim 32 wherein the technical requirements data  
2 module includes draft, approved, and archived versions of the technical requirements  
3 data;

4                    wherein the draft, approved, and archived versions of the technical  
5 requirements are linked within the relational database.

1                    42.     The system of claim 31 method of claim 1 wherein the module  
2 for grouping technical requirements data into technical requirements summaries  
3 groups product components, product amounts, in-process product measures, and  
4 finished product measures into a formula card.

1                    43.     The system of claim 31 wherein the module for grouping  
2 technical requirements data into technical requirements summaries groups package  
3 components, package amounts, in-process product measures, and finished package  
4 measures into a packing standard.

1                    44.     The system of claim 43 wherein the packing standard comprises  
2 consumer level data, customer level data, and transport level data.

1                    45.     The system of claim 44 wherein the consumer level data  
2 comprises primary package data and a link to a product formula.

1                    46.     The system of claim 31 wherein the module for grouping  
2 technical requirements data into technical requirements summaries groups product  
3 constituents and associated levels for a given raw material into a raw material  
4 specification.

1                    47     The system of claim 46 wherein the module for grouping  
2 technical requirements data creates a master level raw materials specification and an  
3 individual level raw materials specification, the master level including technical  
4 information and the individual level containing logistical and shipping information, the  
5 master and individual levels being individually reviewed and approved.

1                    48.     The system of claim 31 wherein the module for grouping  
2 technical requirements data into technical requirements summaries groups raw and

3 packaging constituents and associated levels for a given raw and packaging material  
4 into a packaging material specification.

1 49. The system of claim 48 wherein the module for grouping  
2 technical requirements creates a master level material specification containing  
3 technical information and an individual level containing logistical and shipping  
4 information.

1 50. The system of claim 31 wherein the module for grouping  
2 technical requirements data into technical requirements summaries groups raw material  
3 data by approved supplier.

1 51. The system of claim 31 wherein the module for grouping  
2 technical requirements data into technical requirements summaries groups finished  
3 products by approved country of sale.

1 52. The system of claim 31 wherein the module for linking  
2 unstructured documents links text documents to the technical requirements data by  
3 reference to a stored file containing at least one text document.

1 53. The system of claim 52 wherein the text documents specify test  
2 methods, process standards, general standards, standard operating procedures, or  
3 recommended procedures.

1 54. The system of claim 31 wherein the module for linking  
2 unstructured documents links artwork for product packaging to the technical  
3 requirements data by reference to a stored file containing associated artwork  
4 specifications or graphics.

1 55. A computer readable storage medium having stored data  
2 representing instructions executable by a computer to manage product development,  
3 the computer readable storage medium comprising:



4 instructions for storing technical requirements data for a product  
5 including product data, material data, and packaging data in a structured relational  
6 database;

7 instructions for linking unstructured documents to the technical  
8 requirements data within the structured relational database;

9 instructions for grouping technical requirements data into technical  
10 requirements summaries to define a finished product;

11 instructions for linking the technical requirements summaries for the  
12 finished product to facilitate user navigation among related technical requirements  
13 summaries;

14 instructions for recording changes made to the technical requirements  
15 data and associated user identification information;

16 instructions for storing approval information for the technical  
17 requirements data in the relational database; and

18 instructions for electronically communicating approved technical  
19 requirements data for use in manufacturing and distributing the finished product.

1 56. The computer readable storage medium of claim 55 wherein the  
2 instructions for storing approval information comprise instructions for storing an  
3 electronic signature which uniquely identifies a user.

1 57. The computer readable storage medium of claim 55 wherein the  
2 instructions for linking unstructured documents comprise instructions for associating  
3 structured attributes with the unstructured documents and storing the associated  
4 structured attributes in the relational database.

1 58. The computer readable storage medium of claim 55 further  
2 comprising:

3 instructions for validating the technical requirements data during entry  
4 relative to previously entered technical requirements data based on predetermined  
5 rules.

1                   59.     The computer readable storage medium of claim 55 wherein the  
2     technical requirements summaries include at least two levels of summaries, the  
3     computer readable storage medium further comprising:

4                   instructions for storing separate approval information for each level of  
5     technical requirements summaries.

1                   60.     The computer readable storage medium of claim 59 wherein the  
2     levels of summaries include at least a master level approved by a first user and an  
3     individual level approved by the first user or a second user.

1                   61.     The computer readable storage medium of claim 59 wherein the  
2     levels of summaries include at least a master level and a plurality of individual level  
3     summaries associated with at least one master level summary.

1                   62.     The computer readable storage medium of claim 55 wherein the  
2     technical requirements summaries include a formula card, a raw material specification,  
3     a packing standard, a packaging material specification, a supplier approval, and an  
4     approved country matrix.

1                   63.     The computer readable storage medium of claim 55 further  
2     comprising:

3                   instructions for limiting access to subsets of technical requirements data  
4     based on a user identification and password.

1                   64.     The computer readable storage medium of claim 55 wherein the  
2     instructions for grouping technical requirements data comprise instructions for  
3     grouping data to form different technical requirements summaries based on  
4     requirements or practices of a particular geographic region.

1                   65.     The computer readable storage medium of claim 55 wherein the  
2     instructions for grouping technical requirements data comprise instructions for  
3     combining different technical requirements data to form technical requirements

4 summaries based on requirements or practices of business units within an  
5 organization.

1 66. The computer readable storage medium of claim 55 wherein the  
2 instructions for storing technical requirements data comprise instructions for storing  
3 draft versions of the technical requirements data.

1 67. The computer readable storage medium of claim 55 wherein the  
2 instructions for storing technical requirements data comprise instructions for storing  
3 approval information associated with the technical requirements data.

1 68. The computer readable storage medium of claim 55 wherein the  
2 instructions for storing technical requirements data comprise:  
3 instructions for storing draft, approved, and archived versions of the  
4 technical requirements data; and  
5 instructions for linking the draft, approved, and archived versions of  
6 the technical requirements within the relational database.

1 69. The computer readable storage medium of claim 55 wherein the  
2 instructions for grouping technical requirements data into technical requirements  
3 summaries comprise instructions for grouping product components, product amounts,  
4 in-process product measures, and finished product measures into a formula card.

1 70. The computer readable storage medium of claim 55 wherein the  
2 instructions for grouping technical requirements data into technical requirements  
3 summaries comprise instructions for grouping package components, package amounts,  
4 in-process product measures, and finished package measures into a packing standard.

1 71. The computer readable storage medium of claim 70 wherein the  
2 packing standard comprises consumer level data, customer level data, and transport  
3 level data.

1                   72.    The computer readable storage medium of claim 55 wherein the  
2   instructions for grouping technical requirements data into technical requirements  
3   summaries comprise instructions for grouping product constituents and associated  
4   levels for a given raw or package material into a raw or package material  
5   specification, respectively.